SERVICE MANUAL

FISHER

AC/DC STEREO HIGH FIDELITY SYSTEM

PH-W702L

(EUROPE)

142 446 24

SPECIFICATIONS

Power Source
- AC 120V/220V, 50/60Hz
- DC 9V
- (UM-1, HP 2, D Cell, Monozelle, R 20) x 6

Max. Output Power ..... 3.5W x 2
Power Consumption 14W
Current Consumption (at Vol. Min.)
- Record mode 250mA
- Playback mode 190mA
- Fast Forward mode 190mA
- Rewind mode 210mA

Recording System ..... AC Bias
Erasing System ..... AC Erasing
Tape Speed ..... 1-7/8ips. ±3%
Wow & Flutter ..... 0.1% (WRMS)
Torque
- Playback ..... 30 ~ 55g-cm
- Fast Forward/Rewind ..... more than 55g-cm

Fast Forward/Rewind Time ..... 150sec. (with C-60)

Frequency Response
- Fe_2O_3 ..... 100Hz ~ 12,500Hz

Erase Ratio (Overall, with Fe_2O_3) 60dB
Signal to Noise Ratio (with Fe_2O_3) 37dB
Crosstalk (with Fe_2O_3)
- Track to Track 50dB

Channel Separation (with Fe_2O_3) 30dB
Harmonic Distortion (K3/with Fe_2O_3) 3%
Hum & Noise (at Vol. Min.) ..... −60dBs
Oscillatiuon frequency 80kHz
Terminal Impedance
- EXT.Speaker 3.2Ω
- Headphones 32Ω

Frequency Range
- LW ..... 150 ~ 280kHz
- MW ..... 525 ~ 1,605kHz
- SW ..... 6 ~ 18MHz
- FM ..... 87.5 ~ 108MHz

– Specifications subject to change without notice. –

REFERENCE No. WM-19875

CABINET PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	PACKAGE		
	141-6-1419-86520	Indvidual Carton	1
	141-6-1469-15700	Case Styrofoam Top	1
	141-6-1469-15800	Case Styrofoam Bottom	1
	141-6-2519-21390	Poly Cover	1
	141-6-2519-21490	Poly Cover	2
	141-6-4559-03201	Serial No. Sheet	2
	ACCESSORIES		
	131-6-2719-10401	Bag Fan	1
	141-6-4729-07400	Label Caution	1
	141-6-4729-07700	Label Caution	1
	142-6-4119-33485	Instruction Manual	1
	CABINET		
	4-2359-79270	Socket Lug Wire Assy	1
	4-2352-02694	Connector 2P Assy [CN5]	1
CA1	141-0-1129-17824	Cabinet Bottom Assy	1
CA2	141-2-4219-12400	Screw	4
CA3	141-2-4219-13400	Screw	1
CA4	4-2449-70630	Rod Antenna	1
CA5	141-2-1719-29900	Handle	1
CA6	141-2-1339-37500	Lid Battery	1
CA7	141-2-8519-06700	Spring Cassette Case Lever B	1
CA8	141-2-5389-05000	Drum Dial	1
CA9	141-2-3779-20400	Holder PCB	2
CA10	141-2-1629-10800	Knob Lever	2
CA11	141-2-7519-72800	Shaft Dial	1
CA12	141-2-4219-14000	Screw	2
CA13	141-2-5519-03300	Roller Dial A	2
CA14	141-2-5119-13400	Pointer	1
CA15	141-2-4219-22600	Screw Poly Wave	3
CA16	141-2-3769-13700	Fix Cord	1
CA17	⚠ 4-2439-72790	Power Cord	1
CA18	141-2-3229-57200	Shield Plate	1
CA19	131-2-5205-22501	Cushion	2
CA20	141-2-1639-61100	Knob Tuning	1
CA21	141-2-1249-56301	Lid Cassette B	1
CA22	141-2-1249-56202	Lid Cassette A	1
CA23	141-0-5519-08501	Gear Eject Assy	2
CA24	141-0-1129-21907	Cabinet Top Assy	1
CA25	4-1539-70661	Microphone	1
CA26	141-2-8549-33500	Spring Lid Cassette (A)	1
CA27	141-2-2629-08100	Bracket Button A	2
CA28	141-2-1659-54700	Button Select Eject 2	1
CA29	141-2-1659-54300	Button Select Pause	2
CA30	141-2-1659-54200	Button Select FF	2
CA31	141-2-1659-54100	Button Select REW	2
CA32	141-2-1659-54000	Button Select Play	2
CA33	141-2-1659-54600	Button Select REC	1
CA34	141-2-6129-07000	Spindle Button	1
CA35	141-2-2629-08300	Bracket Button	1
CA36	141-2-1659-71000	Button Select Dubbing	1
CA37	141-2-1659-70900	Button Select High Speed	1
CA38	141-2-1659-53900	Button Select Eject 1	1
CA39	141-2-8549-33600	Spring Lid Cassette (B)	1
CA40	141-2-1649-52300	Knob Slide	2
CA41	4-2249-70561	Fine Tuner	1
CA42	141-2-1639-62800	Knob Fine Tuning	1
CA43	141-2-1659-57900	Knob Push	1
CA44	131-2-4201-28300	Screw	1
PCB1	141-0-1939-15699	Amplifier P.C.B. Assy	1
PCB2	141-0-1939-17415	Radio Tuner P.C.B. Assy	1
PCB3	141-0-1939-22331	Power P.C.B. Assy	1
PCB4	141-0-1939-22351	Graphic Equalizer P.C.B. Assy	1
PCB5	141-0-1939-22340	Control P.C.B. Assy	1
CX1	628-3-0910-00000	String, ϕ0.5	1
CX2	411 040 4604	SCR PAN 2.6X8	1
CX3	411 040 4802	SCR PAN 2.6X8	1
CX4	411 002 9104	SCR PAN 3X8	1
CX5	411 023 3303	SCR S-TPG PAN 2.6X8	1
CX6	411 023 1002	SCR S-TPG PAN 2.6X10	1
CX7	411 023 4003	SCR S-TPG PAN 3X10	9
CX8	411 023 4201	SCR S-TPG PAN 3X10	1
CX9	411 023 6304	SCR S-TPG PAN 3X20	4
CX10	411 021 6405	SCR S-TPG BIN 3X8	2
CX11	411 000 9908	RING E 3	4
CX12	411 001 0102	RING E 4	1

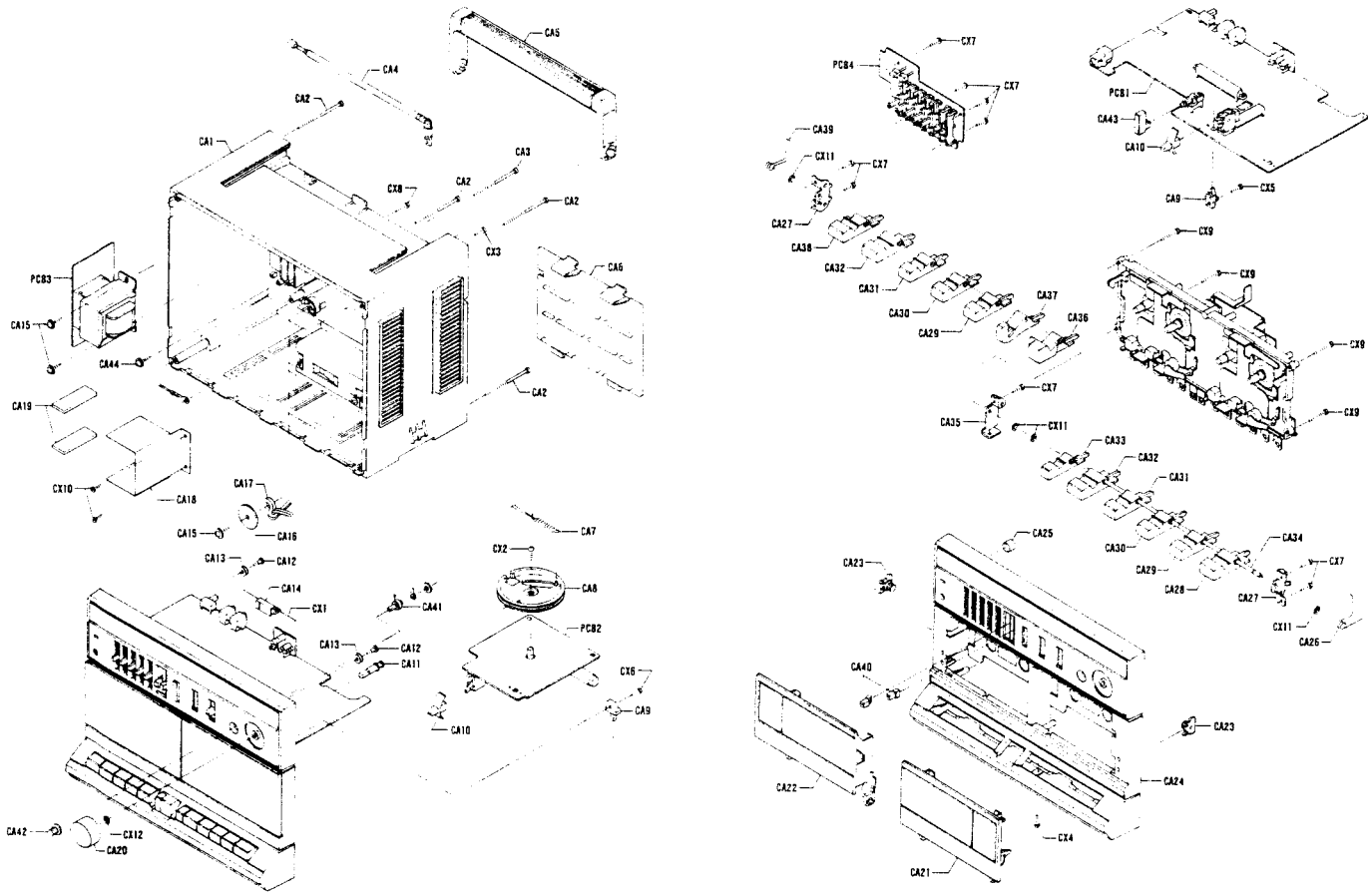
NOTE:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CABINET EXPLODED VIEW

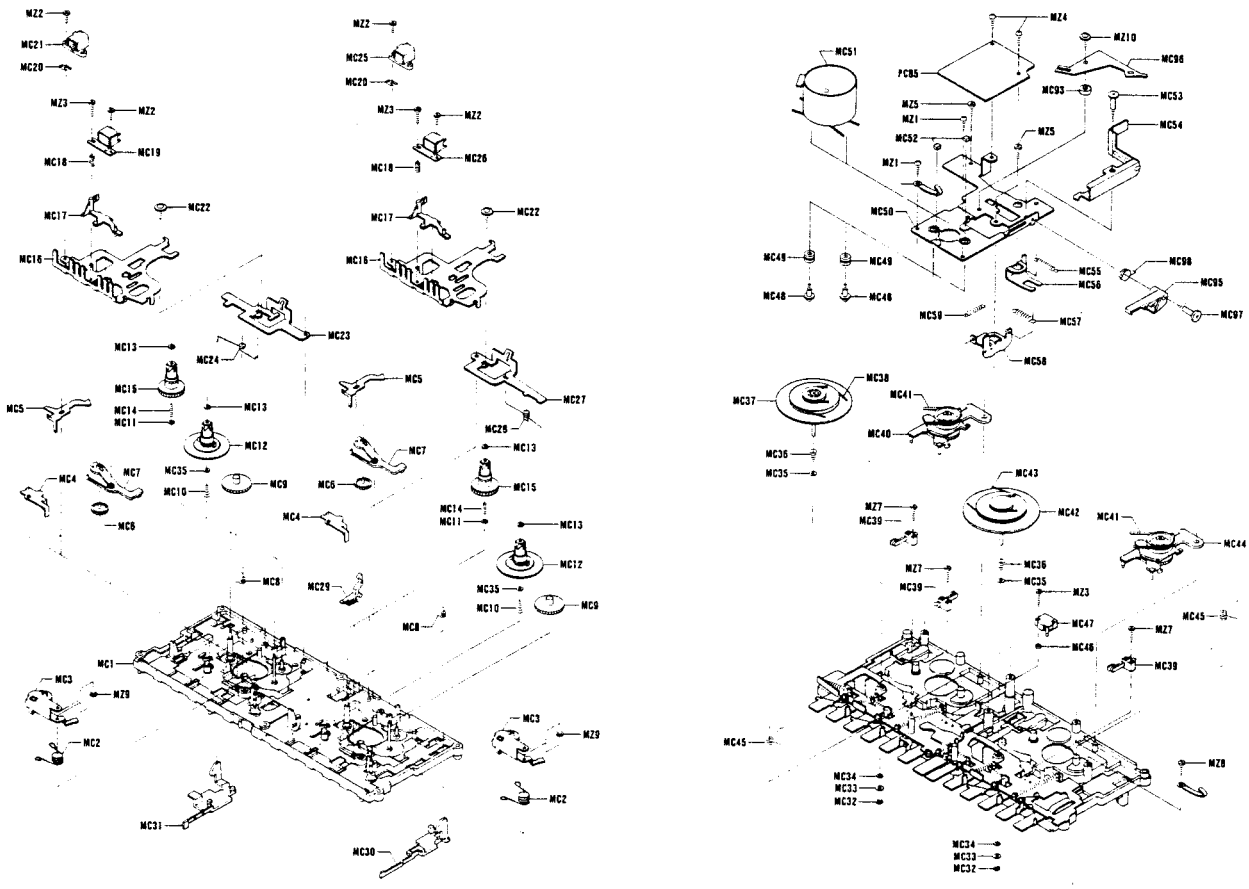


MECHANISM PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	MECHANISM		
C505	403 042 3501	ELECT 100U M 16V	1
	4-2539-70301	Micro Inductor [L501]	1
	141-2-4729-04100	Lug	1
	4-2352-02780	Connector 3P Assy [CN2]	1
	4-2352-02632	Connector 6P Assy [CN3]	1
	4-2352-02693	Connector 2P Assy [CN4]	1
	4-2359-79312	Connector 1P Assy	1
	141-2-4729-05300	Wire Band	4
MC1	141-0-3119-26300	Chassis Assy	1
MC2	141-2-8529-30300	Spring Pinch Roller	2
MC3	141-0-5419-03201	Pinchroller Assy	2
MC4	141-2-7429-00300	Lever Cue Review	2
MC5	141-2-7429-00200	Lever ASO	2
MC6	141-2-5519-65200	Gear Take-up	2
MC7	141-2-7439-49200	Arm Take-up	2
MC8	141-2-8529-32400	Spring Take-up	2
MC9	141-2-5519-65400	Gear F.FWD	2
MC10	141-2-8559-15200	Spring Reel	2
MC11	141-2-4539-27601	Washer	2
MC12	141-0-5319-09800	Fix Take-up Assy	2
MC13	141-2-4539-15700	Washer	4
MC14	141-2-8559-15400	Spring Supply	2
MC15	141-2-5319-17400	Fix Supply Reel	2
MC16	141-2-7319-72800	Base Slide	2
MC17	141-2-7419-98500	Lever Sensor ASO	2
MC18	141-2-8559-14900	Spring Head	2

Ref. No.	Part No.	Description	Q'ty
MC19	4-2429-72990	Play Head [HD1]	1
MC20	141-2-3529-18100	Spacer Head	2
MC21	141-2-8219-36700	Guide Tape	1
MC22	141-2-4219-05400	Screw, w/Washer	2
MC23	141-2-7419-99700	Lever Cassette Fix Left	1
MC24	141-2-8529-30700	Spring Cassette Lock Left	1
MC25	4-2429-73000	Erase Head [HD3]	1
MC26	4-2429-72980	R/P Head [HD2]	1
MC27	141-2-7419-99800	Lever Cassette Fix Right	1
MC28	141-2-8529-30600	Spring Cassette Lock Right	1
MC29	141-2-8419-11700	Interlock Lever	1
MC30	141-2-7319-71100	Plate Lock Lid Left	1
MC31	141-2-7319-71200	Plate Lock Lid Right	1
MC32	141-2-4579-04400	E Ring	2
MC33	141-2-4539-19800	Washer	2
MC34	141-2-4539-27603	Washer	2
MC35	141-2-4539-35500	Washer	4
MC36	141-2-8559-04700	Spring Pulley	2
MC37	141-0-5219-13200	Flywheel Complete	1
MC38	141-2-5649-28200	Belt Drive R/P	1
MC39	4-2319-74360	Leaf Switch (Play) [S307]	1
MC39	4-2319-74360	Leaf Switch (Motor) [S305 & S306]	2
MC40	141-0-5519-13600	Idler Assy R/P	1
MC41	141-2-5649-28100	Belt Wind	2
MC42	141-0-5219-13700	Flywheel Complete	1
MC43	141-2-5649-28300	Belt Drive P	1
MC44	141-0-5519-13601	Idler Assy P	1

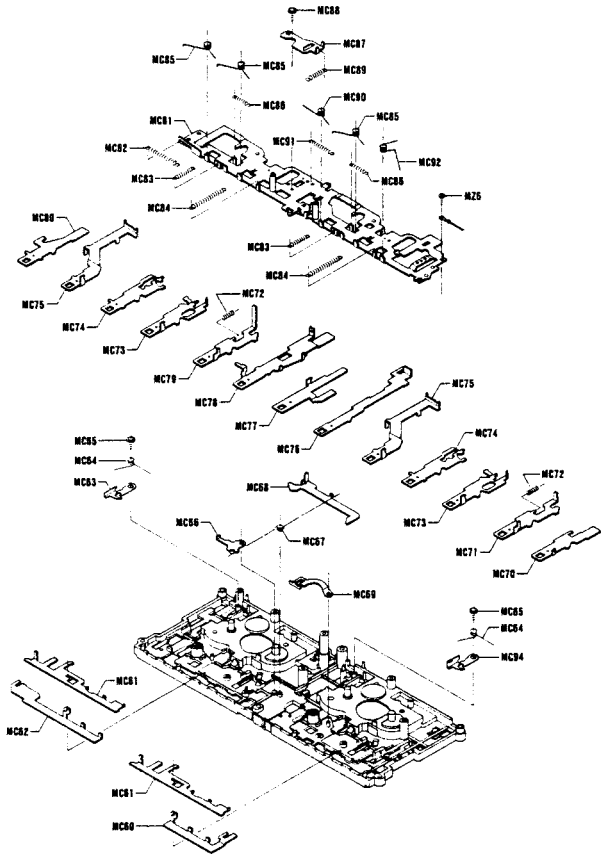
MECHANISM EXPLODED VIEW



MECHANISM PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
MC45	141-2-8529-36700	Spring Arm Idler	2
MC46	141-2-8259-00300	Spacer Brake	1
MC47	4-2319-78590	Lever Switch (Dubbing) [S308]	1
MC48	141-2-4219-30100	Screw	2
MC49	141-2-4459-11800	Cushion Motor	2
MC50	141-2-3789-11000	Bracket Motor	1
MC51	4-5279-71580	Motor [M1]	1
MC52	141-2-4469-21300	Cushion	2
MC53	141-2-4219-29600	Screw	1
MC54	141-2-8419-16300	Lever Record	1
MC55	141-2-8519-14300	Spring Lever Cassette Lid	1
MC56	141-2-8429-07700	Lever Speed Switch	1
MC57	141-2-8519-01800	Spring Rewind Roller	1
MC58	141-2-8429-07900	Lever R/P Switch	1
MC59	141-2-8519-70200	Spring Slide Base	1
MC60	141-2-7319-72400	Plate Switch Motor Left	1
MC61	141-2-7319-72600	Plate Lock	2
MC62	141-2-7319-72500	Plate Switch Motor Right	1
MC63	141-2-7419-99400	Lutch Pause	1
MC64	141-2-8529-30400	Spring Pause Lutch	2
MC65	141-2-4219-13201	Screw, w/Washer	2
MC66	141-2-7419-99600	Lever Stopper Rec	1
MC67	141-2-8529-31000	Spring Stop Rec	1
MC68	141-2-7319-77400	Plate Amp Switch	1
MC69	141-2-7419-99500	Lever Play	1
MC70	141-2-7319-72200	Rod Stop Eject Left	1
MC71	141-2-7319-71800	Rod Play	
MC72	141-2-8559-14300	Spring Base Slide	
MC73	141-2-7319-71700	Rod Rewind	
MC74	141-2-7319-71600	Rod F.FWD	
MC75	141-2-7319-71500	Rod Pause	
MC76	141-2-7319-72100	Rod Speed Switch	
MC77	141-2-7319-72000	Rod Dubbing	
MC78	141-2-7319-71900	Rod Record	
MC79	141-2-7319-82400	Rod Play	
MC80	141-2-7319-71400	Rod Stop Eject R	
MC81	141-0-3519-25900	Bracket Rod Assy	
MC82	141-2-8519-38700	Spring Lever Head	
MC83	141-2-8549-34800	Spring Lever ASO	
MC84	141-2-8549-38600	Spring Rod Base	
MC85	141-2-8529-30200	Spring Rod	
MC86	141-2-8549-37400	Spring Plate Motor	
MC87	141-2-7419-99900	Lever Dubbing	
MC88	141-2-4219-42100	Screw	
MC89	141-2-8549-04500	Spring Eject	
MC90	141-2-8529-30100	Spring Rod Pause	
MC91	141-2-8519-03600	Spring Shut-off Lever	
MC92	141-2-8529-30900	Spring Rod Stop	
MC93	141-2-3529-52800	Spacer	
MC94	141-2-7429-03900	Lutch Pause	
MC95	141-2-7429-04000	Lever Cancel Pause	
MC96	141-2-7429-04100	Lever Link	

MECHANISM EXPLODED VIEW (Continued)



MECHANISM PARTS LIST (Continued)

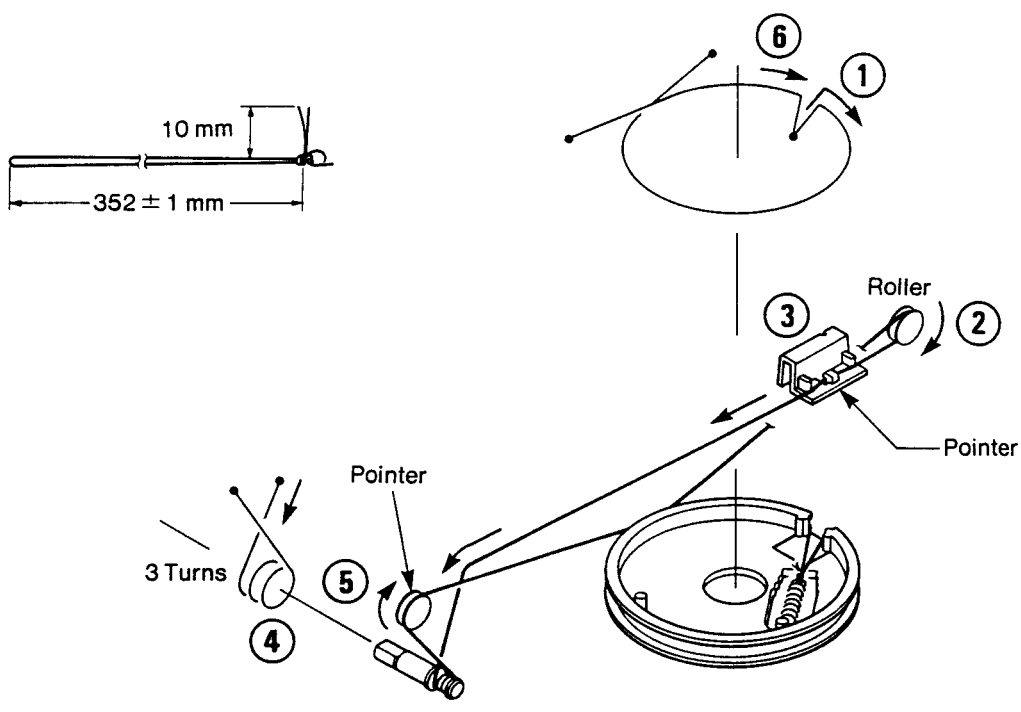
Ref. No.	Part No.	Description
MC97	141-2-4219-29600	Screw
MC98	141-2-8529-36900	Spring Lever Cancel
MZ1	411 002 6004	SCR PAN 2.6X6
MZ2	411 030 6403	SCR BIN 2X5
MZ3	411 030 7509	SCR BIN 2X7
MZ4	411 006 5102	SCR TPG PAN 2.6X8
MZ5	411 023 3303	SCR S-TPG PAN 2.6X8
MZ6	411 021 0809	SCR S-TPG BIN 2X6
MZ7	411 021 0205	SCR S-TPG BIN 2X12
MZ8	411 021 3107	SCR S-TPG BIN 2.6X8
MZ9	411 015 9009	RING E 2
MZ10	411 037 3801	SCR PAN+W 2.6X6

NOTES:

1. Parts order must contain Model Number, Part Number an Description.
2. Ordering quantity of screws and resistors must be multiple 10 pcs.

DIAL CORD STRINGING

Ref. No.
C505
MC1
MC2
MC3
MC4
MC5
MC6
MC7
MC8
MC9
MC10
MC11
MC12
MC13
MC14
MC15
MC16
MC17
MC18



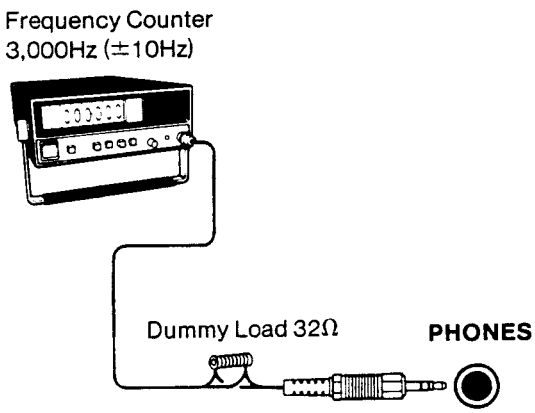
ELECTRICAL ADJUSTMENTS

EQUIPMENT REQUIRED

- VTVM (2 sets)
- Frequency Counter
- Dummy Load (32Ω)
- Dualtrace Oscilloscope
- DC Constant-voltage Regulator
- Test Tapes
  - ‡ 3kHz Test Tape (Example: TEAC MTT-111) for Tape Speed Adjustment
  - ‡ 10kHz Test Tape (Example: TEAC MTT-114) for Head Azimuth Adjustment
- Alignment Tool

TAPE SPEED ADJUSTMENT

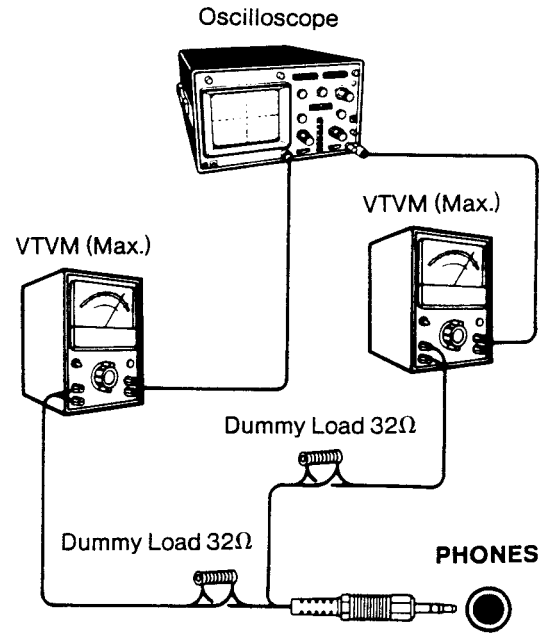
1. Connect a frequency counter to the left or right channel output of the headphone jack as illustrated. Then, insert a 3kHz test tape (Example: TEAC MTT-111) into the cassette compartment.



2. Detach the Cabinet Bottom and adjust the tape speed by slowly turning the P501 in the CONTROL P.C.B. until the frequency counter reads 3,000Hz (±10Hz).

HEAD AZIMUTH ADJUSTMENT

Detach the cassette compartment lid from the unit and connect a dualtrace oscilloscope and a VTVM to both channel outputs of the headphone jack as illustrated.

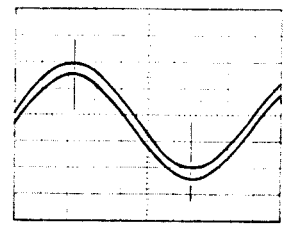


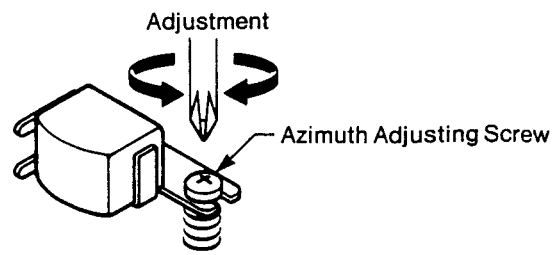
Then, set the dualtrace oscilloscope as follows:

- ‡ MODE ..... CHOP (chopped)
- ‡ SOURCE ..... INT (internal), CH1 or CH2
- ‡ SWEEP MODE ..... AUTO (automatic)

NOTE:
Adjust the field on the oscilloscope with the VOLT. ADJ. and TIME ADJ.

1. Insert a 10kHz test tape (Example: TEAC MTT-114) into the cassette compartment.
2. While playing back the test tape, turn the azimuth adjusting screw until the wave forms of the right and left channels are superimposed and set to optimum at maximum reading on the VTVM.





3. After the adjustment, secure the adjusting screw with paint or glue.

TUNER ADJUSTMENTS

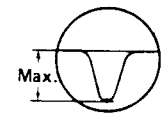
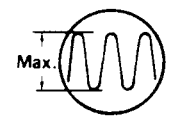
EQUIPMENT REQUIRED

- AM Standard Signal Generator
- FM Standard Signal Generator
- Generator Scope
- Loop Antenna for MW/LW
- Dummy Antenna (30Ω/10pF) for SW
- Dummy Antenna (75Ω, unbalanced type) for FM
- Ceramic Capacitor (10pF)
- Electrolytic Capacitor (1μF)
- Carbon Resistor (100kΩ)
- VTVM
- Oscilloscope
- Frequency Counter
- Dummy Load (32Ω)
- Alignment Tool
- Before performing the adjustment, set the switches and controls as follows:
  - ‡ Function Switch ..... RADIO
  - ‡ Volume Controls ..... Arbitrary
  - ‡ Graphic Equalizer Controls ..... 0 (click position)

NOTE:
Use an alignment tool with plastic grip for all adjustments.

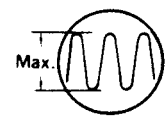
MW ALIGNMENT

Standard Test Frequency 400Hz and Modulation 30% at AM

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF	Connect loop antenna to output terminal of gene-scope. Place loop antenna by bar antenna.	Connect input terminal of gene-scope to Pin14 of IC2 (TP6) through capacitor (1μF).	460kHz	Low End	T3	Obtain symmetrical curve and maximum amplitude. 
2	Calibration of Tuning Range	Connect loop antenna to output terminal of AM signal generator. Place loop antenna 60cm away from bar antenna.	Connect VTVM with 32Ω dummy load and oscilloscope to Headphones Jack.	510kHz		T6	Obtain sine-wave of 400Hz and maximum amplitude. 
3				1,670kHz	High End	TC4	
4	Adjustment of Tracking			600kHz	600kHz	L4-1 (bar antenna)	
5				1,400kHz	1,400kHz	TC3(PVC)	
6	Repeat the above steps until no further change is noted in any of the adjustments.						

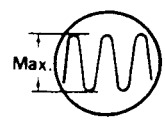
LW ALIGNMENT

Standard Test Frequency 400Hz and Modulation 30% at AM

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of Tuning Range	Connect loop antenna to output of AM signal generator. Place loop antenna 60cm away from bar antenna.	Connect VTVM with 32Ω dummy load and oscilloscope to Headphones Jack.	145kHz	Low End	T7	Obtain sine-wave of 400Hz and maximum amplitude. 
2				300kHz	High End	TC5	
3	Adjustment of Tracking			160kHz	160kHz	L4-2 (bar antenna)	
4				280kHz	280kHz	TC2	
5	Repeat the above steps until no further change is noted in any of the adjustments.						

SW ALIGNMENT

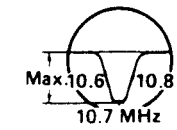
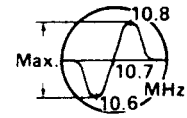
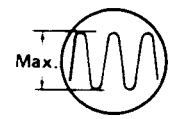
Standard Test Frequency 400Hz and Modulation 30% at AM

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of Tuning Range	Connect AM signal generator to antenna terminals (TP1 and TP2) through dummy antenna (30Ω/10pF).	Connect VTVM with 32Ω dummy load and oscilloscope to Headphones Jack.	5.7MHz	Low End	T5	Obtain sine-wave of 400Hz and maximum amplitude. 
2				18.7MHz	High End	TC3	
3	Adjustment of Tracking			6.5MHz	6.5MHz	T4	
4				17.0MHz	17.0MHz	TC1	
5	Repeat the above steps until no further change is noted in any of the adjustments.						

TUNER ADJUSTMENTS (Continued)

FM ALIGNMENT

Standard test frequency 400Hz and deviation 22.5kHz

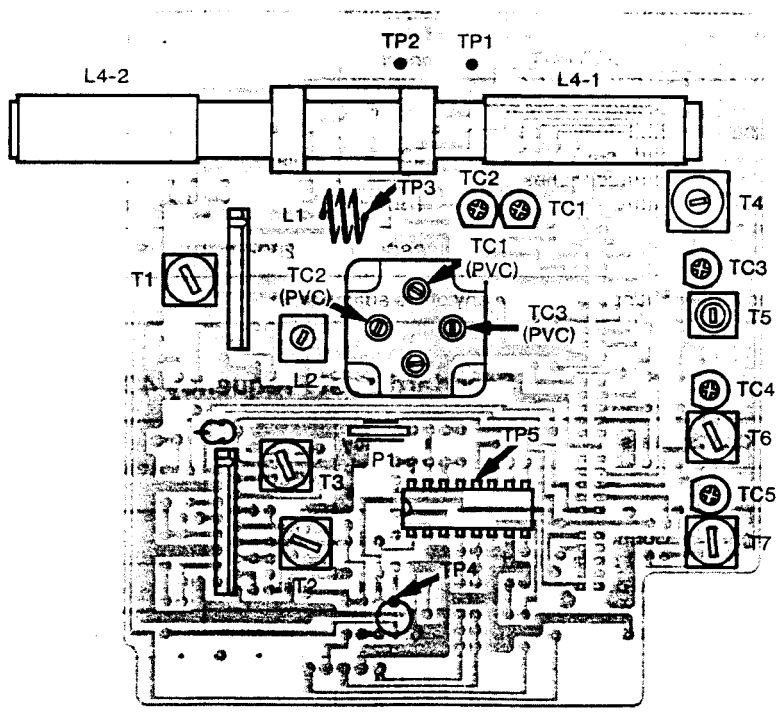
Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF	Connect output of gene-scope to Pin 2 of IC1 (TP3) through capacitor (10pF).	Connect input terminal of gene-scope to Pin 2 of IC3 (TP4) through capacitor (1μF).	10.7MHz	Low End	Turn T2 fully counter-clockwise and then, adjust T1.	Obtain symmetrical curve and maximum amplitude. 
2						T2	Obtain **S** curve and maximum amplitude. 
3	Calibration of Tuning Range	Connect signal generator to antenna terminals (TP1 and TP2) through dummy antenna (75Ω, unbalanced type).	Connect VTVM with 32Ω dummy load and oscilloscope to Headphones Jack.	87.35MHz		L2	Obtain sine-curve and maximum amplitude. 
4				108.25MHz	High End	TC2 (PVC)	
5	Adjustment of Tracking			90MHz	90MHz	L1	
6				106MHz	106MHz	TC1 (PVC)	
7	Repeat the above steps until no further change is noted in any of the adjustments.						

FM MPX (Multiplex) ADJUSTMENT

19kHz (V.C.O.) ADJUSTMENT

1. Before the adjustment, set the switches as follows:
   - FM Mode Switch ..... STEREO
2. Connect a frequency counter to Pin 12 of IC3 (TP5) through a resister 100KΩ.
3. Adjust the potentiometer (P1) until the oscillation frequency of IC3 becomes 19kHz (±20Hz).

TUNER P.C.BOARD ALIGNMENT POINTS
(TOP VIEW)



P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	AMPLIFIER P.C.B. ASSY		
PCB1	141-0-1939-15699	Amplifier P.C.B. Assy	1
	141-2-3689-08400	Radiator IC (for IC303)	1
	4-2369-73781	Pin 1P	2
	131-2-9800-02401	Jumper (To Control, 3P)	1
	131-2-9800-02400	Jumper (To Control, 5P)	1
	131-2-9800-02402	Jumper (To Graphic EQ, 4P)	1
	131-2-9800-02403	Jumper (To Graphic EQ, 3P)	1
	4-2439-73170	Wire 3 Parallel (To Graphic EQ LED, 3P)	1
CN1	4-2369-73380	Connector 5P	1
CN2	4-2369-73360	Connector 3P	1
CN3	4-2369-73390	Connector 6P	1
CN4	4-2369-73790	Connector 2P	1
CN5	4-2369-73790	Connector 2P	1
J101	4-2352-01160	Jack 3P (Speaker)	1
J201	4-2352-01160	Jack 3P (Speaker)	1
J301	4-2359-79080	Jack 7P (Headphones)	1
J302	4-2352-01956	Pin Jack 2P (LINE IN)	1
S301	4-2319-78640	Slide Switch (Record/Play)	1
S302	4-2319-78920	Lever Switch (Function)	1
S303	4-2319-75590	Slide Switch (OSC)	1
S304	4-2319-78940	Push Switch (FM Mode)	1
L101	4-2729-70480	Coil (33mH)	1
L201	4-2729-70480	Coil (33mH)	1
L302	4-2539-70301	Micro Inductor (100μH)	1
T301	4-2589-73090	OSC Trans	1
D101	407 061 2309	DIODE 1SS95	1
D102	407 061 2309	DIODE 1SS95	1
D201	407 061 2309	DIODE 1SS95	1
D202	407 061 2309	DIODE 1SS95	1
D301	407 053 7107	ZENER DIODE MTZ-T-776.2B	1
D302	407 061 2309	DIODE 1SS95	1
D303	407 061 2309	DIODE 1SS95	1
D304	407 061 2309	DIODE 1SS95	1
IC301	409 071 6506	IC TA7739P	1
IC302	409 002 4007	IC BA3306	1
IC303	409 018 0109	IC LA4555	1
Q101	405 019 3002	TR 2SC536-F-AUD-NP	1
Q201	405 019 3002	TR 2SC536-F-AUD-NP	1
Q301	405 019 3002	TR 2SC536-F-AUD-NP	1
Q302	405 021 0105	TR 2SD1012-F	1
Q303	405 018 0200	TR 2SC3331-U	1
Q304	405 019 2708	TR 2SC536-F-NP	1
Q305	405 024 9907	TR 2SD734-F	1
C101	403 026 8201	CERAMIC 470P K 50V	1
C102	403 026 8201	CERAMIC 470P K 50V	1
C104	403 048 7602	ELECT 0.47U M 50V	1
C105	403 039 7802	ELECT 100U M 10V	1
C106	403 058 3700	POLYESTER 0.015U K 50V	1
C107	403 071 2506	CERAMIC 1800P K 50V	1
C108	403 058 3700	POLYESTER 0.015U K 50V	1
C109	403 072 4509	CERAMIC 270P K 50V	1
C110	403 069 0705	CERAMIC 1000P K 50V	1
C112	403 039 7802	ELECT 100U M 10V	1
C113	403 042 0302	ELECT 10U M 16V	1
C114	403 047 9607	ELECT 0.1U M 50V	1
C116	403 049 1609	ELECT 1U M 50V	1
C117	403 069 0705	CERAMIC 1000P K 50V	1
C118	403 039 7802	ELECT 100U M 10V	1
C119	403 039 7802	ELECT 100U M 10V	1
C120	403 038 4406	ELECT 1000U M 6.3V	1
C121	403 058 5803	POLYESTER 0.15U K 50V	1
C122	403 073 6502	CERAMIC 470P K 50V	1
C123	403 042 0302	ELECT 10U M 16V	1
C124	403 068 9105	CERAMIC 100P K 50V	1
C125	403 072 7906	CERAMIC 330P K 50V	1
C131	403 047 1502	ELECT 4.7U M 25V	1
C201	403 026 8201	CERAMIC 470P K 50V	1
C202	403 026 8201	CERAMIC 470P K 50V	1
C204	403 048 7602	ELECT 0.47U M 50V	1
C205	403 039 7802	ELECT 100U M 10V	1
C206	403 058 3700	POLYESTER 0.015U K 50V	1
C207	403 071 2506	CERAMIC 1800P K 50V	1
C208	403 058 3700	POLYESTER 0.015U K 50V	1
C209	403 072 4509	CERAMIC 270P K 50V	1
C210	403 069 0705	CERAMIC 1000P K 50V	1
C212	403 039 7802	ELECT 100U M 10V	1
C213	403 042 0302	ELECT 10U M 16V	1
C214	403 047 9607	ELECT 0.1U M 50V	1
C216	403 049 1609	ELECT 1U M 50V	1
C217	403 069 0705	CERAMIC 1000P K 50V	1
C218	403 039 7802	ELECT 100U M 10V	1
C219	403 039 7802	ELECT 100U M 10V	1
C220	403 038 4406	ELECT 1000U M 6.3V	1
C221	403 058 5803	POLYESTER 0.15U K 50V	1
C222	403 073 6502	CERAMIC 470P K 50V	1
C223	403 042 0302	ELECT 10U M 16V	1
C224	403 068 9105	CERAMIC 100P K 50V	1
C225	403 072 7906	CERAMIC 330P K 50V	1
C231	403 047 1502	ELECT 4.7U M 25V	1
C301	403 041 3304	ELECT 47U M 10V	1
C302	403 042 0302	ELECT 10U M 16V	1
C303	403 038 7100	ELECT 220U M 6.3V	1
C304	403 038 7100	ELECT 220U M 6.3V	1
C305	403 040 2704	ELECT 22U M 10V	1
C306	403 039 7802	ELECT 100U M 10V	1
C307	403 043 8000	ELECT 3300U M 16V	1
C308	403 038 2303	ELECT 100U M 6.3V	1
C309	403 040 4708	ELECT 220U M 10V	1
C310	403 040 4708	ELECT 220U M 10V	1
C311	403 042 0302	ELECT 10U M 16V	1
C312	403 047 9607	ELECT 0.1U M 50V	1
C313	403 073 8407	CERAMIC 4700P K 50V	1
C314	403 049 1609	ELECT 1U M 50V	1
C315	403 040 2704	ELECT 22U M 10V	1
C316	403 057 6306	POLYESTER 1200P K 50V	1
C317	403 061 2608	POLYESTER 3900P K 50V	1
C318	403 081 2602	POLYPRO 2200P J 100V	1
C319	403 059 6601	POLYESTER 0.022U K 50V	1
C320	403 057 0908	POLYESTER 0.01U K 50V	1
C321	403 047 1502	ELECT 4.7U M 25V	1
C322	403 042 0302	ELECT 10U M 16V	1
C323	403 057 0908	POLYESTER 0.01U K 50V	1
C332	403 030 6309	CERAMIC 68P J 50V	1
C333	403 068 9402	CERAMIC 100P K 50V	1
R101	401 028 8106	CARBON 120K JA 1/8W	1
R102	401 032 8703	CARBON 8.2K JA 1/8W	1
R103	401 031 5505	CARBON 47 JA 1/8W	1
R104	401 028 3705	CARBON 10K JA 1/8W	1
R105	401 028 3705	CARBON 10K JA 1/8W	1
R106	401 028 7109	CARBON 1.2K JA 1/8W	1
R107	401 028 3705	CARBON 10K JA 1/8W	1
R108	401 028 8106	CARBON 120K JA 1/8W	1
R109	401 028 3705	CARBON 10K JA 1/8W	1
R110	401 028 3705	CARBON 10K JA 1/8W	1
R111	401 033 0201	CARBON 91 JA 1/8W	1
R112	401 032 1100	CARBON 56K JA 1/8W	1
R113	401 028 3705	CARBON 10K JA 1/8W	1
R114	401 029 9706	CARBON 220 JA 1/8W	1
R115	401 031 6601	CARBON 4.7K JA 1/8W	1
R117	401 031 9602	CARBON 56 JA 1/8W	1
R118	401 032 4002	CARBON 680 JA 1/8W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
R119	401 019 9600	CARBON 47 JA 1/4W	1
R120	401 028 7604	CARBON 12K JA 1/8W	1
R121	401 031 7202	CARBON 47K JA 1/8W	1
R132	401 032 6808	CARBON 7.5K JA 1/8W	1
R133	401 028 3200	CARBON 1K JA 1/8W	1
R134	401 031 7202	CARBON 47K JA 1/8W	1
R135	401 020 2904	CARBON 47K JA 1/4W	1
R201	401 028 8106	CARBON 120K JA 1/8W	1
R202	401 032 8703	CARBON 8.2K JA 1/8W	1
R203	401 031 5505	CARBON 47 JA 1/8W	1
R204	401 028 3705	CARBON 10K JA 1/8W	1
R205	401 028 3705	CARBON 10K JA 1/8W	1
R206	401 028 7109	CARBON 1.2K JA 1/8W	1
R207	401 028 3705	CARBON 10K JA 1/8W	1
R208	401 028 8106	CARBON 120K JA 1/8W	1
R209	401 028 3705	CARBON 10K JA 1/8W	1
R210	401 028 3705	CARBON 10K JA 1/8W	1
R211	401 033 0201	CARBON 91 JA 1/8W	1
R212	401 032 1100	CARBON 56K JA 1/8W	1
R213	401 028 3705	CARBON 10K JA 1/8W	1
R214	401 029 9706	CARBON 220 JA 1/8W	1
R215	401 031 6601	CARBON 4.7K JA 1/8W	1
R217	401 031 9602	CARBON 56 JA 1/8W	1
R218	401 032 4002	CARBON 680 JA 1/8W	1
R219	401 019 9600	CARBON 47 JA 1/4W	1
R220	401 028 7604	CARBON 12K JA 1/8W	1
R221	401 031 7202	CARBON 47K JA 1/8W	1
R232	401 032 6808	CARBON 7.5K JA 1/8W	1
R233	401 028 3200	CARBON 1K JA 1/8W	1
R234	401 031 7202	CARBON 47K JA 1/8W	1
R235	401 020 2904	CARBON 47K JA 1/4W	1
R301	401 028 3200	CARBON 1K JA 1/8W	1
R302	401 028 3200	CARBON 1K JA 1/8W	1
R303	401 012 4503	CARBON 100 JA 1/4W	1
R304	401 018 6600	CARBON 3.3M JA 1/4W	1
R305	401 028 4207	CARBON 100K JA 1/8W	1
R306	401 020 0801	CARBON 470 JA 1/4W	1
R307	401 031 6106	CARBON 470 JA 1/8W	1
R308	401 031 8308	CARBON 5.6 JA 1/8W	1
R309	401 031 6106	CARBON 470 JA 1/8W	1
R310	401 028 3705	CARBON 10K JA 1/8W	1
R311	401 028 3200	CARBON 1K JA 1/8W	1
R312	401 031 6601	CARBON 4.7K JA 1/8W	1
R313	401 031 7707	CARBON 470K JA 1/8W	1
R314	401 030 9207	CARBON 3.3K JA 1/8W	1
R315	401 032 8208	CARBON 820 JA 1/8W	1
R316	401 028 3200	CARBON 1K JA 1/8W	1
R317	401 028 3705	CARBON 10K JA 1/8W	1
R318	401 030 8200	CARBON 33 JA 1/8W	1
R319	401 028 2104	CARBON 10 JA 1/8W	1
R320	401 032 4606	CARBON 6.8K JA 1/8W	1
R321	401 012 3407	CARBON 10 JA 1/4W	1
R322	401 031 7202	CARBON 47K JA 1/8W	1
R323	401 028 3200	CARBON 1K JA 1/8W	1
	RADIO TUNER P.C.B. ASSY		
PCB2	141-0-1939-17415	Radio Tuner P.C.B. Assy	1
CN1	4-2352-02339	Connector 5P Assy	1
SW1	4-2319-77750	Lever Switch (Band)	1
BPF1	4-2539-71021	Band Pass Filter	1
L1	4-2599-70810	RF Coil	1
L2	4-2589-71960	FM OSC Trans	1
L3	4-2532-00040	Choke Coil (1mH)	1
L4	4-2579-72500	Bar Antenna	1
T1	4-2569-71631	IFT FM	1

Ref. No.	Part No.	Description	Q'ty
T2	4-2569-71340	IFT FM	1
T3	4-2569-71353	IFT AM	1
T4	4-2579-70722	Antenna Coil	1
T5	4-2589-71422	OSC Trans SW	1
T6	4-2589-71413	OSC Trans MW	1
T7	4-2589-71402	OSC Trans LW	1
CF1	4-2539-70185	Ceramic Filter 10.7M	1
CF2	4-2539-70682	Mechanical Filter	1
CF3	4-2539-70185	Ceramic Filter 10.7M	1
PVC1	4-2249-70791	Variable Condenser	1
TC1	4-2249-70580	Trimmer Condenser	1
TC2	4-2249-70590	Trimmer Condenser	1
TC3	4-2249-70580	Trimmer Condenser	1
TC4	4-2249-70580	Trimmer Condenser	1
TC5	4-2249-70590	Trimmer Condenser	1
P1	4-2229-73060	Potentiometer (B-10kΩ)	1
TP1	4-2369-73781	Pin 1P	1
TP2	4-2369-73782	Pin 1P	1
D1	407 061 2309	DIODE 1SS95	1
IC1	409 068 3006	IC BA4412	1
IC2	409 002 6803	IC BA4236L	1
IC3	409 068 0500	IC BA1335	1
Q1	405 016 1001	TR 2SC2839-F	1
C1	403 033 2605	CERAMIC 8.2P K 50V	1
C2	403 014 2600	CERAMIC 18P J 50V	1
C3	403 001 2309	CERAMIC 0.01U N 16V	1
C4	403 069 1207	CERAMIC 1000P K 50V	1
C5	403 001 2309	CERAMIC 0.01U N 16V	1
C6	403 012 6006	CERAMIC 15P J 50V	1
C7	403 027 7906	CERAMIC 5.6P K 50V	1
C8	403 017 0108	CERAMIC 20P J 50V	1
C9	403 001 5805	CERAMIC 0.022U N 16V	1
C10	403 001 5805	CERAMIC 0.022U N 16V	1
C11	403 001 5805	CERAMIC 0.022U N 16V	1
C12	403 071 5903	CERAMIC 220P K 50V	1
C13	403 049 5409	ELECT 10U M 50V	1
C14	403 001 5805	CERAMIC 0.022U N 16V	1
C15	403 004 0500	CERAMIC 0.047U K 25V	1
C16	403 001 2309	CERAMIC 0.01U N 16V	1
C17	403 041 5704	ELECT 470U M 10V	1
C18	403 039 7802	ELECT 100U M 10V	1
C19	403 001 5805	CERAMIC 0.022U N 16V	1
C20	403 049 1609	ELECT 1U M 50V	1
C21	403 002 6207	CERAMIC 0.012U K 25V	1
C22	403 002 6207	CERAMIC 0.012U K 25V	1
C23	403 048 3109	ELECT 0.22U M 50V	1
C24	403 048 3109	ELECT 0.22U M 50V	1
C25	403 001 2309	CERAMIC 0.01U N 16V	1
C26	403 001 2309	CERAMIC 0.01U N 16V	1
C27	403 049 1609	ELECT 1U M 50V	1
C28	403 048 3109	ELECT 0.22U M 50V	1
C29	403 048 7602	ELECT 0.47U M 50V	1
C30	403 082 4001	POLYPRO 680P J 100V	1
C31	403 004 0500	CERAMIC 0.047U K 25V	1
C32	403 001 5805	CERAMIC 0.022U N 16V	1
C33	403 012 6006	CERAMIC 15P J 50V	1
C34	403 071 2001	CERAMIC 180P K 50V	1
C35	403 014 2600	CERAMIC 18P J 50V	1
C36	403 033 2605	CERAMIC 8.2P K 50V	1
C37	403 081 4101	POLYPRO 240P J 100V	1
C38	403 088 2308	STYRENE 360P J 50V	1
C39	403 088 0809	STYRENE 3100P J 50V	1
C40	403 025 7304	CERAMIC 4.7P K 50V	1
C41	403 001 5805	CERAMIC 0.022U N 16V	1
C42	403 001 2309	CERAMIC 0.01U N 16V	1
C43	403 017 0207	CERAMIC 20P J 50V	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
C44	403 009 1809	CERAMIC 10P J 50V	1
C45	403 033 2605	CERAMIC 8.2P K 50V	1
C46	403 030 6309	CERAMIC 68P J 50V	1
C47	403 012 6501	CERAMIC 15P J 50V	1
C48	403 020 8108	CERAMIC 3P C 50V	1
R1	401 028 3200	CARBON 1K JA 1/8W	1
R2	401 028 2104	CARBON 10 JA 1/8W	1
R3	401 029 9102	CARBON 22 JA 1/8W	1
R4	401 018 5801	CARBON 330K JA 1/4W	1
R5	401 018 5801	CARBON 330K JA 1/4W	1
R6	401 031 0203	CARBON 330K JA 1/8W	1
R7	401 031 2405	CARBON 3.9K JA 1/8W	1
R8	401 031 5505	CARBON 47 JA 1/8W	1
R9	401 028 2609	CARBON 100 JA 1/8W	1
R10	401 031 2405	CARBON 3.9K JA 1/8W	1
R11	401 031 2405	CARBON 3.9K JA 1/8W	1
R12	401 030 0204	CARBON 2.2K JA 1/8W	1
R13	401 030 0204	CARBON 2.2K JA 1/8W	1
R14	401 028 7604	CARBON 12K JA 1/8W	1
R15	401 028 7604	CARBON 12K JA 1/8W	1
R16	401 029 5005	CARBON 1.8K JA 1/8W	1
R17	401 031 6106	CARBON 470 JA 1/8W	1
R18	401 028 3705	CARBON 10K JA 1/8W	1
R19	401 028 3200	CARBON 1K JA 1/8W	1
R20	401 029 1502	CARBON 15K JA 1/8W	1
R21	401 030 8200	CARBON 33 JA 1/8W	1
R22	401 032 6501	CARBON 750 JA 1/8W	1
R23	401 028 3200	CARBON 1K JA 1/8W	1
R24	401 028 2104	CARBON 10 JA 1/8W	1
R25	401 028 4702	CARBON 1M JA 1/8W	1
R26	401 028 3200	CARBON 1K JA 1/8W	1

POWER P.C.B. ASSY

PCB3	141-0-1939-22331	Power P.C.B. Assy	1
	4-2359-79077	Connector 2P Assy	1
	4-2372-00830	EC Terminal 1P	2
	⚠ 4-2352-01940	Fuse Clip	2
F601	⚠ 4-2349-70370	Fuse (1.6A)	1
S601	4-2319-75320	Slide Switch (AD/DC)	1
S602	⚠ 4-2319-75770	Rotary Switch (Voltage Select)	1
T601	⚠ 4-2519-74216	Power Trans	1
D601	407 005 2105	DIODE DS135D-KB3	1
D602	407 005 2105	DIODE DS135D-KB3	1
D603	407 005 2105	DIODE DS135D-KB3	1
D604	407 005 2105	DIODE DS135D-KB3	1
C601	403 072 2703	CERAMIC 0.022U Z 50V	1
C602	403 072 2703	CERAMIC 0.022U Z 50V	1
C603	403 072 2703	CERAMIC 0.022U Z 50V	1
C604	403 072 2703	CERAMIC 0.022U Z 50V	1

GRAPHIC EQUALIZER P.C.B. ASSY

PCB4	141-0-1939-22351	Graphic Equalizer P.C.B. Assy	1
VR701	4-2229-77290	Slide Volume (A-20kΩ)	1
VR801	4-2229-77290	Slide Volume (A-20kΩ)	1
VR901	4-2229-77230	Slide Volume (SW-50kΩ)	1
VR902	4-2229-77230	Slide Volume (SW-50kΩ)	1
VR903	4-2229-77230	Slide Volume (SW-50kΩ)	1
VR904	4-2229-77230	Slide Volume (SW-50kΩ)	1
VR905	4-2229-77230	Slide Volume (SW-50kΩ)	1
D901	407 028 3806	LED SLP-165B-50	1
D902	407 028 3806	LED SLP-165B-50	1
IC901	409 068 2009	IC BA3824LS	1
C702	403 048 7602	ELECT 0.47U M 50V	1
C703	403 060 8700	POLYESTER 0.033U K 50V	1
C704	403 048 3109	ELECT 0.22U M 50V	1
C705	403 063 0503	POLYESTER 6800P K 50V	1
C706	403 063 2606	POLYESTER 0.068U K 50V	1
C707	403 058 8606	POLYESTER 1800P K 50V	1
C708	403 059 6601	POLYESTER 0.022U K 50V	1
C709	403 074 9007	CERAMIC 680P K 50V	1
C710	403 047 1502	ELECT 4.7U M 25V	1
C711	403 058 3700	POLYESTER 0.015U K 50V	1
C712	403 047 1502	ELECT 4.7U M 25V	1
C713	403 072 4509	CERAMIC 270P K 50V	1
C802	403 048 7602	ELECT 0.47U M 50V	1
C803	403 060 8700	POLYESTER 0.033U K 50V	1
C804	403 048 3109	ELECT 0.22U M 50V	1
C805	403 063 0503	POLYESTER 6800P K 50V	1
C806	403 063 2606	POLYESTER 0.068U K 50V	1
C807	403 058 8606	POLYESTER 1800P K 50V	1
C808	403 059 6601	POLYESTER 0.022U K 50V	1
C809	403 074 9007	CERAMIC 680P K 50V	1
C810	403 047 1502	ELECT 4.7U M 25V	1
C811	403 058 3700	POLYESTER 0.015U K 50V	1
C812	403 047 1502	ELECT 4.7U M 25V	1
C813	403 072 4509	CERAMIC 270P K 50V	1
C901	403 039 7901	ELECT 100U M 10V	1
R701	401 029 3100	CARBON 1.6K JA 1/8W	1
R702	401 032 0608	CARBON 5.6K JA 1/8W	1
R801	401 029 3100	CARBON 1.6K JA 1/8W	1
R802	401 032 0608	CARBON 5.6K JA 1/8W	1
R901	401 029 9706	CARBON 220 JA 1/8W	1
R902	401 029 0406	CARBON 150 JA 1/8W	1
R903	401 031 6106	CARBON 470 JA 1/8W	1

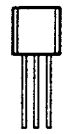
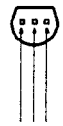
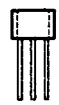
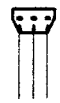
CONTROL P.C.B. ASSY

PCB5	141-0-1939-22340	Control P.C.B. Assy	1
S501	4-2319-73990	Leaf Switch (High Speed)	1
P501	4-2229-72964	Potentiometer (B-2kΩ)	1
D502	407 061 2309	DIODE 1SS95	1
D503	407 063 9702	ZENER DIODE MTZJ9.1C	1
Q501	405 008 2405	TR 2SB698-F	1
Q502	405 019 2708	TR 2SC536-F-NP	1
Q503	405 019 2708	TR 2SC536-F-NP	1
Q505	405 019 2708	TR 2SC536-F-NP	1
Q506	405 019 2708	TR 2SC536-F-NP	1
C501	403 047 1502	ELECT 4.7U M 25V	1
C502	403 042 3501	ELECT 100U M 16V	1
C503	403 042 0302	ELECT 10U M 16V	1
C504	403 072 2703	CERAMIC 0.022U Z 50V	1
R501	401 028 3200	CARBON 1K JA 1/8W	1
R502	401 031 6601	CARBON 4.7K JA 1/8W	1
R503	401 031 6601	CARBON 4.7K JA 1/8W	1
R504	401 028 3200	CARBON 1K JA 1/8W	1
R505	401 030 9702	CARBON 33K JA 1/8W	1
R508	401 032 8703	CARBON 8.2K JA 1/8W	1
R509	401 030 4202	CARBON 2.7K JA 1/8W	1
R510	401 028 3705	CARBON 10K JA 1/8W	1
R511	401 028 3705	CARBON 10K JA 1/8W	1
R512	401 030 9702	CARBON 33K JA 1/8W	1

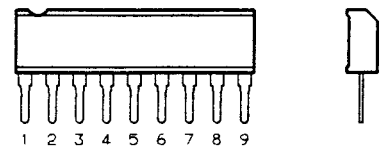
NOTE:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

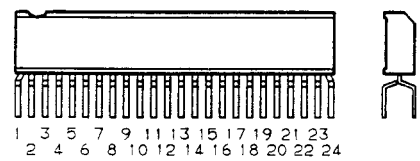
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SC536 2SC2839 2SC3331 2SD734		
2SC1012		
TERMINAL NAME		
B → BASE C → COLLECTOR E → EMITTER		

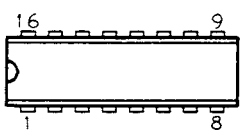
BA3306
BA4412 } **FRONT/SIDE VIEWS**



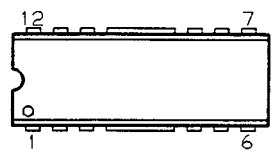
BA3824LS FRONT/SIDE VIEWS



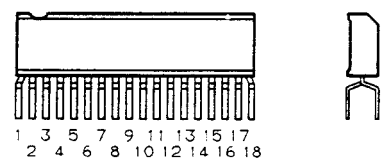
TA7739P
BA1335 } **TOP VIEW**



LA4555 TOP VIEW

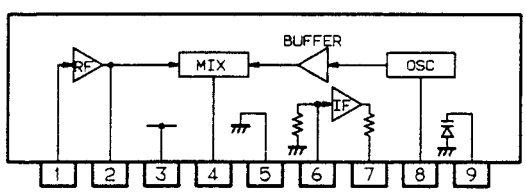


BA4236L FRONT/SIDE VIEWS

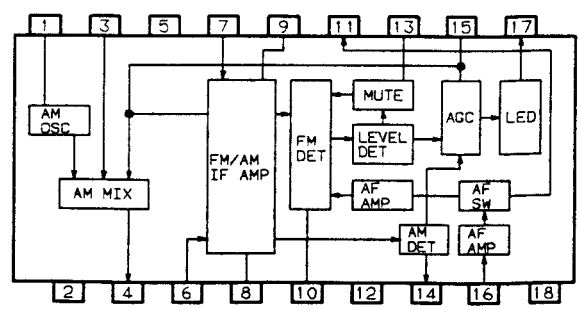


IC BLOCK DIAGRAM

BA4412 BLOCK DIAGRAM

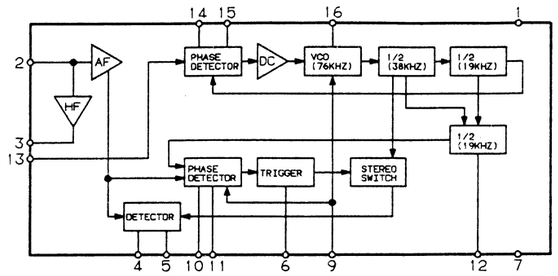


BA4236L BLOCK DIAGRAM

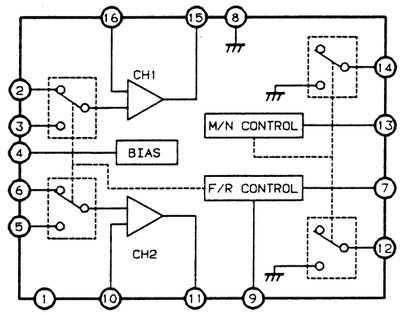


IC BLOCK DIAGRAM (Continued)

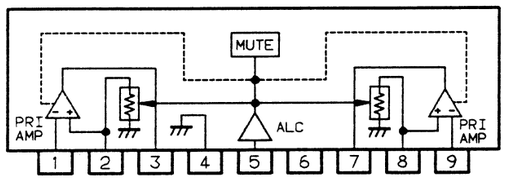
BA1335 BLOCK DIAGRAM



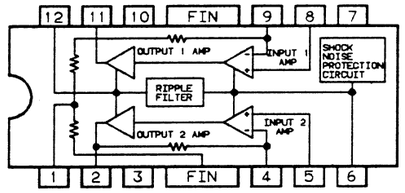
TA7739P BLOCK DIAGRAM



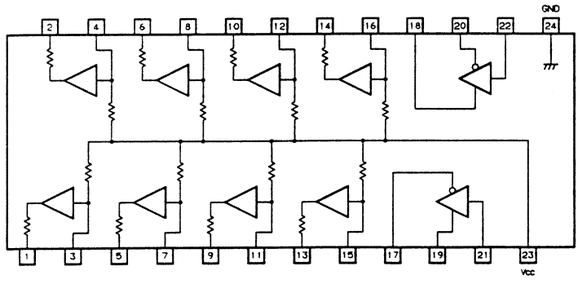
BA3306 BLOCK DIAGRAM



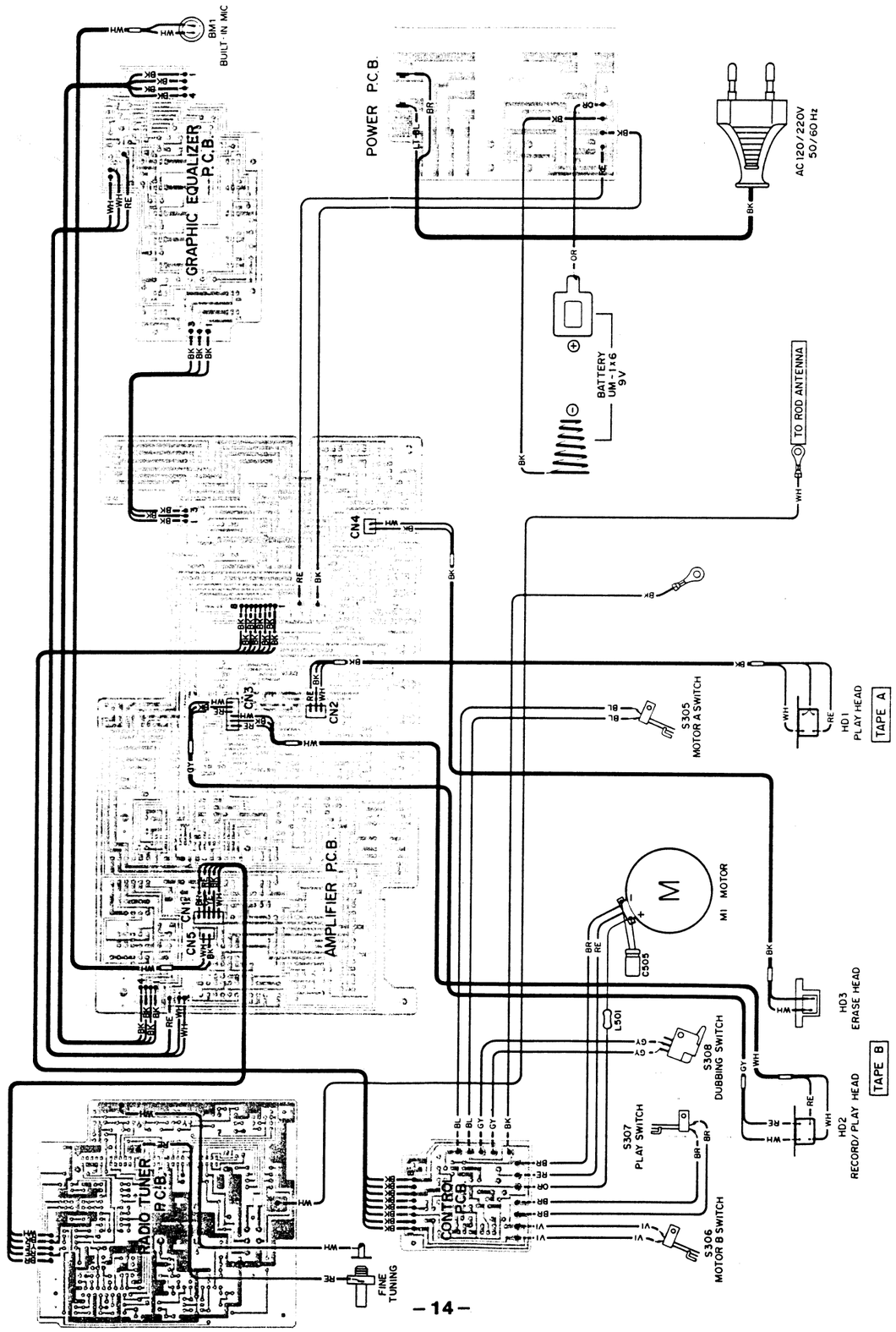
LA4555 BLOCK DIAGRAM



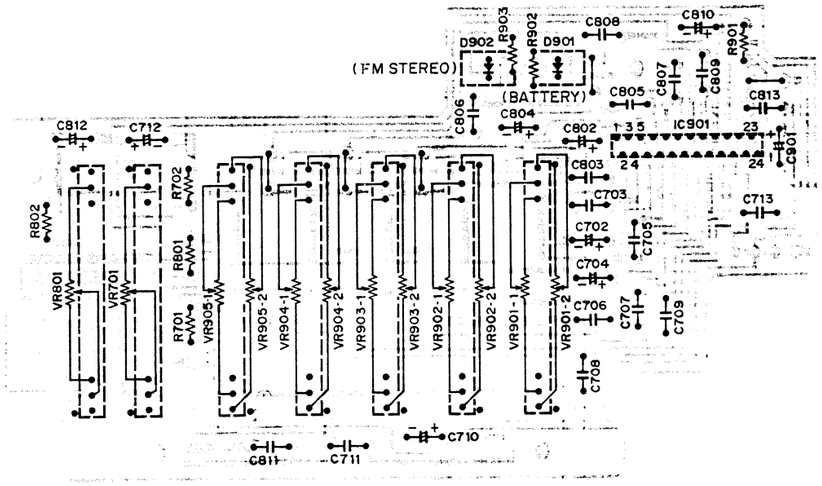
BA3824LS BLOCK DIAGRAM



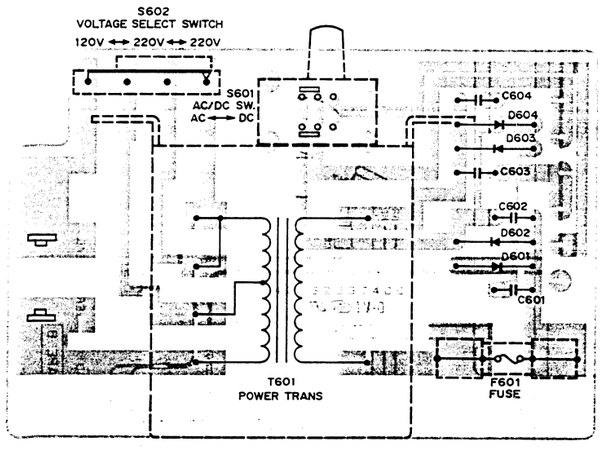
WIRING DIAGRAM



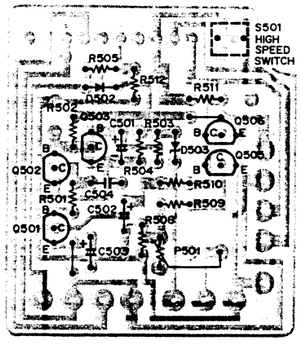
GRAPHIC EQUALIZER P.C.BOARD
(BOTTOM VIEW)



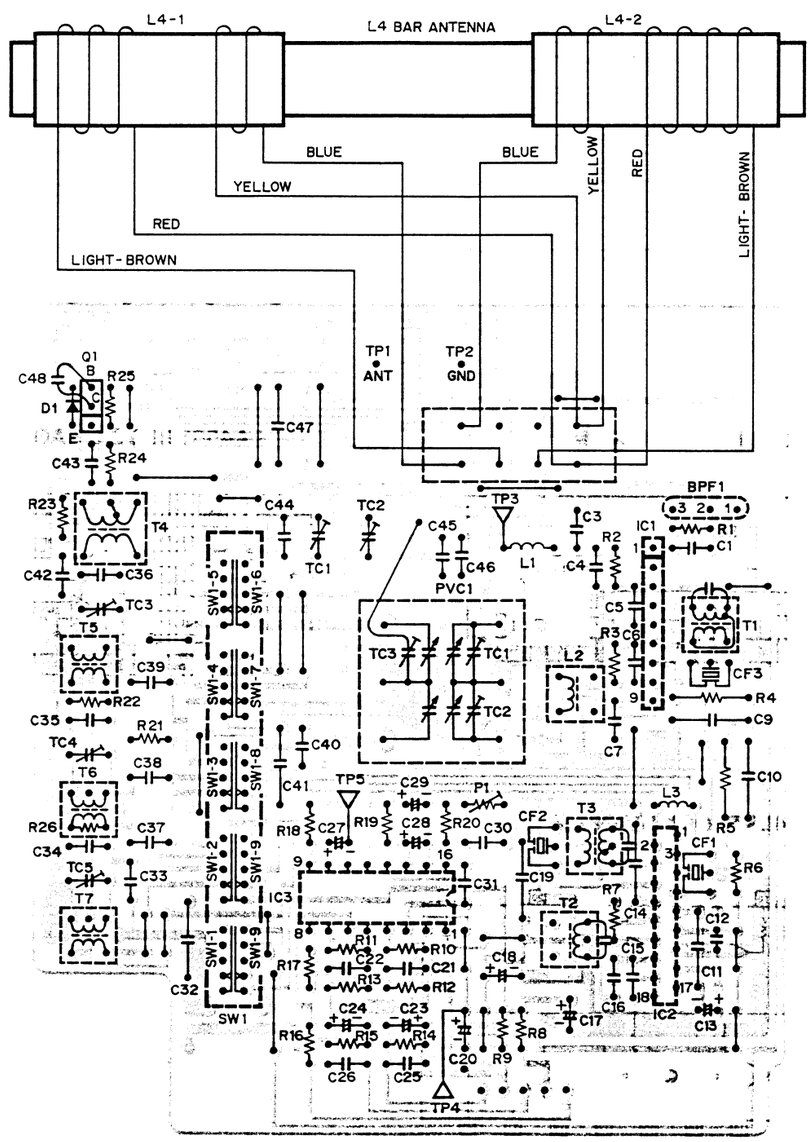
POWER P.C.BOARD
(BOTTOM VIEW)



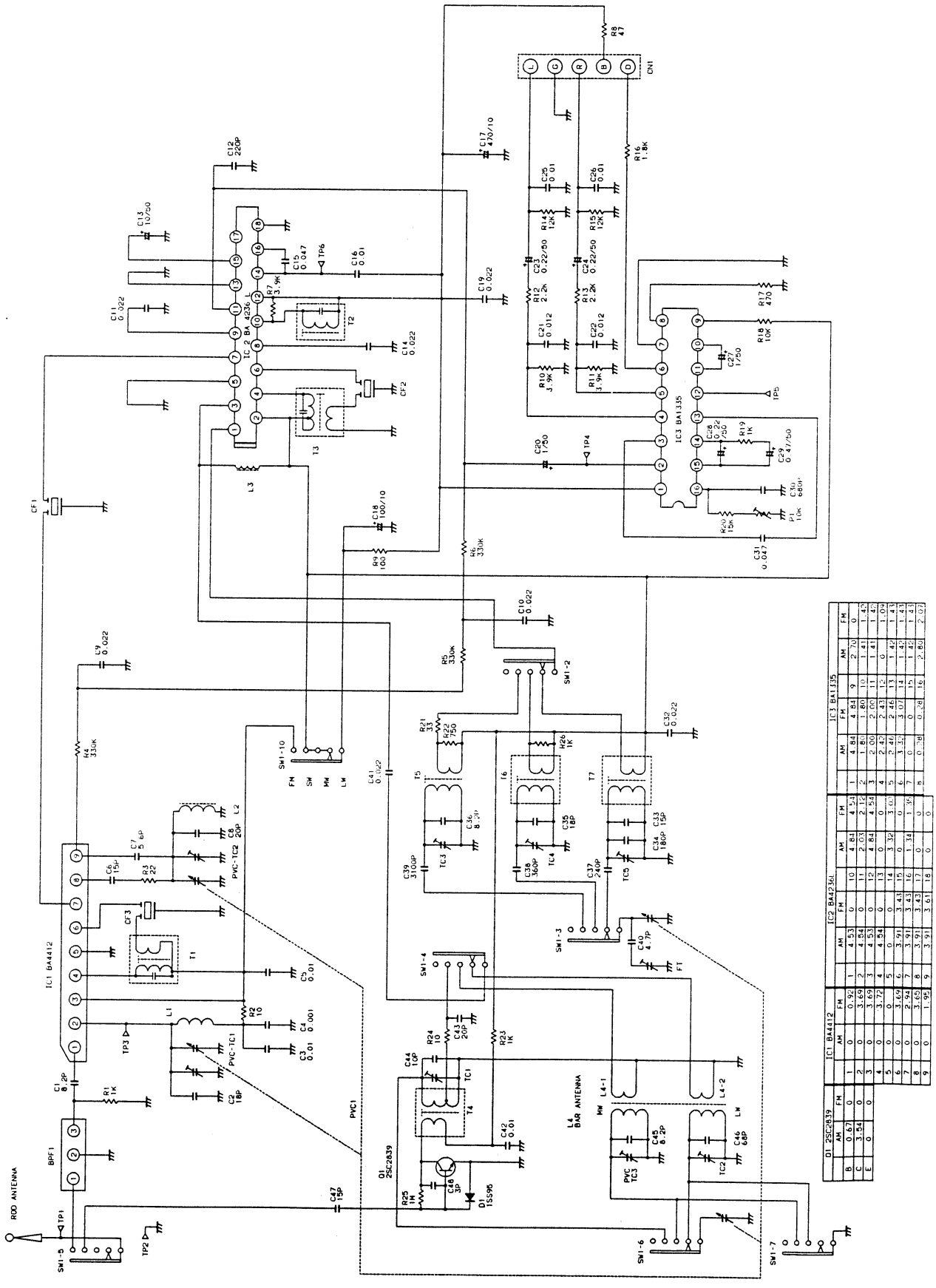
CONTROL P.C.BOARD
(BOTTOM VIEW)



RADIO TUNER P.C.BOARD
(BOTTOM VIEW)

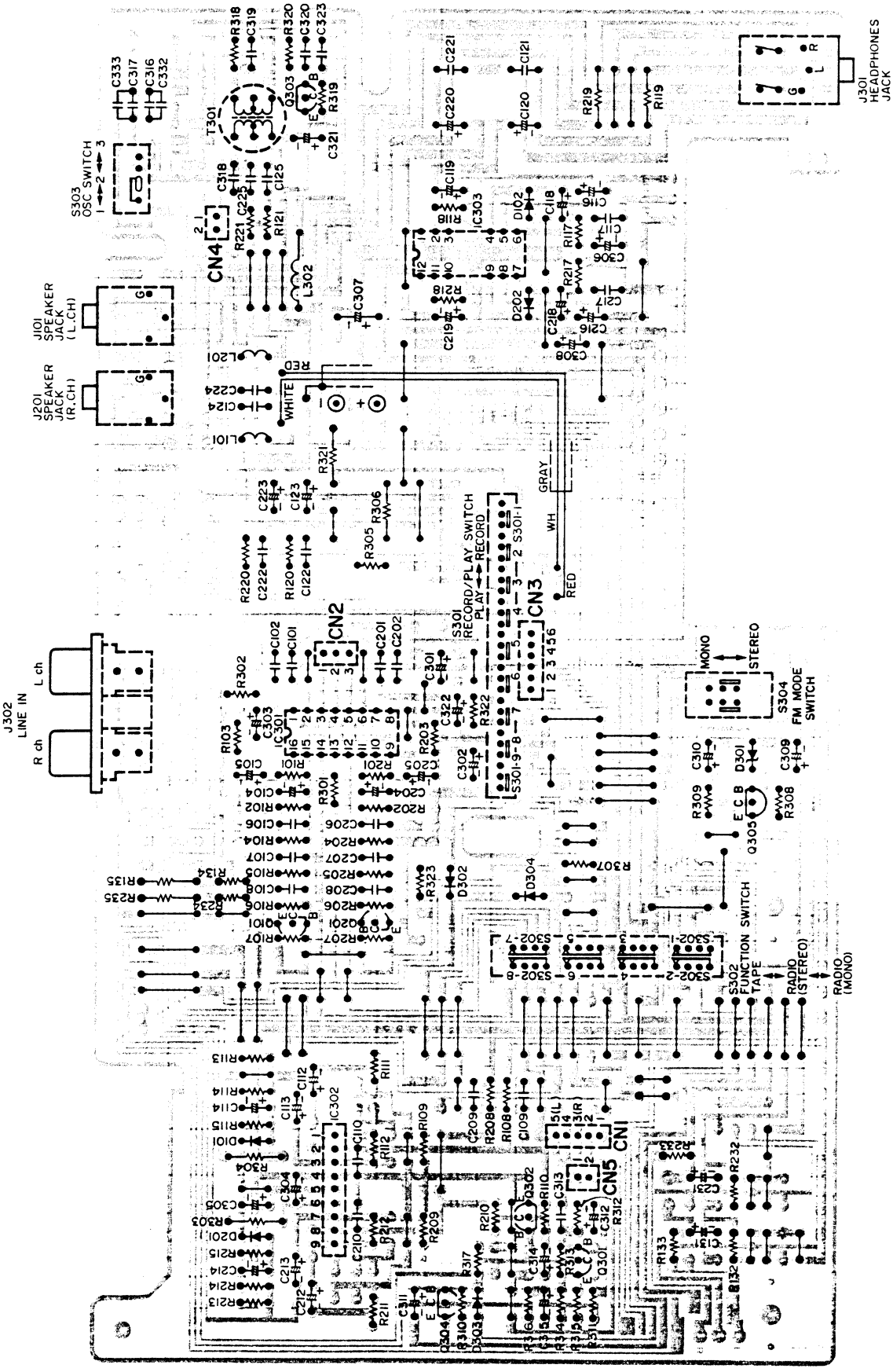


SCHEMATIC DIAGRAM (Radio Tuner)

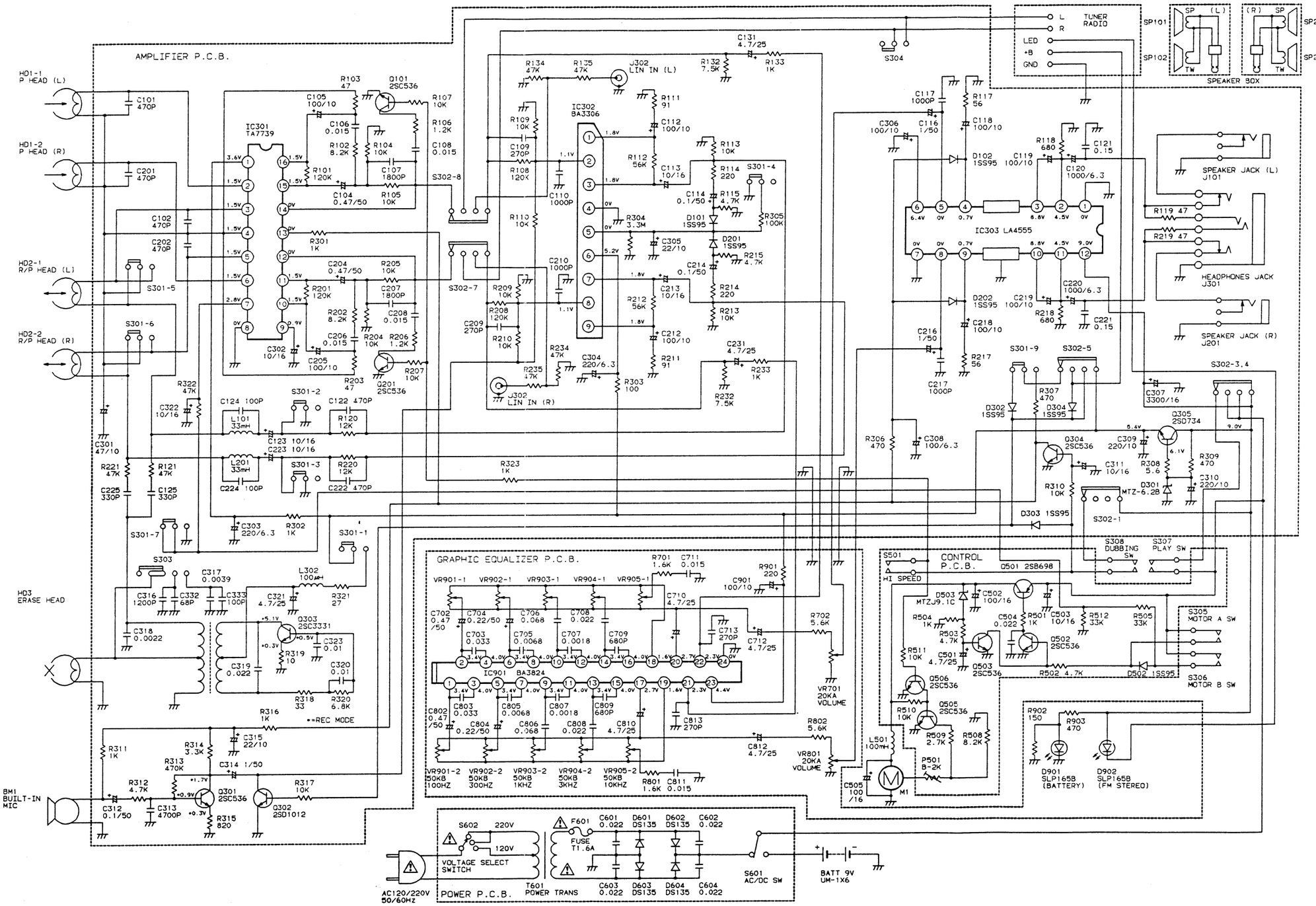


No.	Name	Position
SW1	Band Select Switch	LW

AMPLIFIER P.C.BOARD
(BOTTOM VIEW)



SCHEMATIC DIAGRAM (Amplifier)



No.	Name	Position	No.	Name	Position
S301	Record/Play Switch	PLAY	S306	Motor B Switch	OFF
S302	Function Switch	TAPE	S307	Play Switch	OFF
S303	OSC Switch	1	S308	Dubbing Switch	OFF
S304	FM Mode Switch	STEREO	S501	High Speed Switch	OFF
S305	Motor A Switch	OFF	S601	AC/DC Switch	OFF

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

NOTES:

1. All resistors values are indicated in "ohm" (K=10^3, M=10^6).
2. All capacitors values are indicated in "μF" (P=10^{-12}).
3. All voltages indicated on the schematics are measured under the following conditions.
   a. Use a V.T.V.M.
   b. All voltages ±10 % with respect to chassis ground.
   c. No signals at input terminals.
   d. AC input at 220 volts 50 Hz.
4. This is a basic schematic diagram.

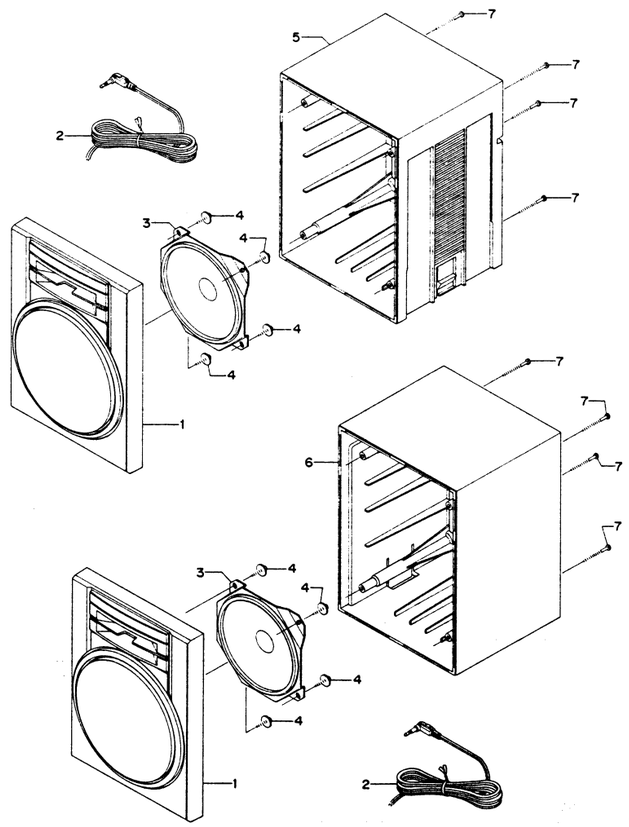
Because Fisher products are subject to continuous improvement, Fisher Corporation reserves the right to make any changes or modifications without notice.

SPEAKER BOX PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	SPEAKER BOX		
	141-2-4419-24500	Sheet (Speaker Box Bottom L)	8
	141-2-4419-24500	Sheet (Speaker Box Bottom R)	8
1	141-0-1129-31000	Speaker Box Top Assy	2
	Following the speakers are included in Speaker Box Top		
	4-1519-71211	Speaker (300Ω) [SP102 & SP202]	1
2	4-2369-74141	Plug Cord	2
3	4-1519-72410	Speaker (3.2Ω)	2
4	131-2-4201-28301	Screw(b Tite Sems)	8
5	141-2-1129-37200	Speaker Box Bottom Left	1
6	141-2-1129-37300	Speaker Box Bottom Right	1
7	411 001 1703	SCR S-TPG PAN 3X30	8

NOTES:
1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

SPEAKER BOX EXPLODED VIEW



Bezeichnung/Description
SERVICE MANUAL
Teile-Nr./Parts No.
WM19875
Menge/Quantity
2
Lagerort
35E02
LS-Nr.
429963 / 19
FISHER HiFi Service GmbH

FISHER Hi-Fi Europa Vertriebs GmbH

Stahlgruberring 4
8000 München 82
Tel: 089/420 45-0
Tlx: 524033

Technisches Labor/ Qualitätskontrolle — Durchwahl –120/121

Funkstörmeßlabor –127/128

Service-Zentrale
- Color TV –166
- Hi-Fi/Audio –168
- Video –172
- Autoradio –170
- Ersatzteillager –155/156
- Techn. Schulung –174

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Military	Frankfurter Straße 121 6050 Offenbach	Tel: 069/88 80 45/48 Tlx: 4 12 558	Ditzingen	Max-Eyth-Straße 11 7257 Ditzingen	Tel: 07156/50 88 Tlx: 7 245 278
Düsseldorf-Erkrath	Albert-Einstein-Straße 8 4006 Erkrath 1	Tel: 0211/200 05-0 Tlx: 8 588 563	Berlin (Fisher Vertragswerkstatt)	Drewitz & Kaulbach Eisenacher Straße 53 1000 Berlin 62	Tel: 030/781 20 01 Tlx: 186 460

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Senden Sie uns im Garantiefall die ausgefüllte Garantiekarte ein. Bei unverkauften Lagergeräten des Fachhandels gilt als Garantienachweis eine eidesstattliche Versicherung mit eingetragener Modellbezeichnung und Geräte-Nummer oder ein Liefernachweis. Die gleiche Regelung besteht auch für Reparaturaufträge.
Bitte geben Sie unbedingt die Ersatzteil-Nummer und die Modellbezeichnung an.
Sie sparen so wertvolle Zeit. Vielen Dank.

April/'87/2,000/H **Printed in Japan**